

Case Study



OFFICE



SUSTAINABLE

NASA Goddard Space Flight Center

GREENBELT, MD

Owner

National Aeronautics and Space Administration (NASA)

Architect/Designers

AECOM
Arlington, VA

Vitro Glass Products

Solarban® 70 Glass

Glass Fabricator

Trulite
Cheswick, PA

PROJECT BACKGROUND

It only makes sense that the new flight projects facility at NASA's Goddard Space Flight Center should be out of this world.

With this idea in mind, architectural firm AECOM sought to create a design that blended contemporary features with traditional elements so that the façade of the new building would fit in seamlessly with the older existing structures on the space agency's 58-year-old campus.

To strike this balance, AECOM used the vocabulary of the adjoining buildings – brick with punched openings and limited areas of curtain wall—as a “baseline” for the look of the new building and worked closely with NASA's Architectural Review Board to ensure that the design met the agency's expectations.

“We wanted to be sensitive to the campus environment at Goddard and be ‘good neighbors,’” explained Dana Marintel, senior design architect at AECOM. “We had access to NASA's Master Plan, as well as a solid understanding of the drivers and goals for the project. This enabled us to develop schemes that aligned with NASA's vision.”



Ron Solomon Photography

A combination of contemporary and traditional elements helps the façade of the NASA Goddard Space Flight Center, featuring Walker Textures® acid-etched Opaque integrated with Solarban® 70 glass, complement the other buildings on the space agency's suburban Maryland campus.



Clear, etched and spandrel glazing provides maximum daylighting, clear exterior views, outstanding glare control and high envelope insulating value at the NASA Goddard Space Flight Center, which achieved LEED® certification at the Gold level.

Products from Vitro Architectural Glass and *Walker Textures*® played a key role in establishing visual harmony, yet distinguishing the new building as a modern structure. “We were looking for glass with high performance that would maximize daylighting and views to the exterior landscaping, while controlling for glare and simultaneously providing a high level of envelope insulating value,” said Marintel.

With a baseline target of LEED® (Leadership in Energy and Environmental Design) Silver certification, AECOM also needed to make glazing an integral part of the overall building and systems approach. Selecting *Walker Textures*® acid-etched *Opaque* by Walker Glass integrated in an insulating glass unit (IGU) with *Solarban*® 70 (formerly *Solarban*® 70XL) solar control low-e glass by Vitro Glass enabled the AECOM design team to achieve both objectives. When completed, the flight projects facility ultimately achieved LEED certification at the Gold level, surpassing its initial goal.

To match the rhythm and pattern of the façades of the existing buildings on campus, AECOM worked with curtain wall and glazing manufacturers to develop a complementary aesthetic for the two primary building wings, combining clear, etched and spandrel glazing, while allowing for more natural light and transparency to connect the interior program spaces with the surrounding landscape.

This pattern was further articulated by setbacks in the glazing plane, vertical fins and deep horizontal mullion caps in the curtain wall system. Not only did these strategies deliver aesthetic value—picking up hues from the other buildings—they also improved the performance of the system by providing a degree of shading while maximizing solar performance.

The cleanability of the acid-etched glass allowed AECOM to explore different design options both on the inside and outside of the building, including the use of translucent

and decorative glass patterns to support the programming and design intent without sacrificing performance.

“Providing *Opaque* in several ways and on different thicknesses was exciting,” said Marc Deschamps, business development manager for *Walker Textures*®.

“For this project, the look and layout were so sharp, and our material was going to play such a major role, so we were confident that our consistent acid-etched finish on both 6- and 12-millimeter glass was going to be the right choice.”

Formulated with the industry’s most advanced triple-silver coating, *Solarban*® 70 glass has a center-of-glass solar heat gain coefficient (SHGC) of 0.27 and visible light transmittance (VLT) of 64 percent in a standard 1-inch IGU with clear glass.

To learn more about *Solarban*® 70 glass and other high-performance glass products by Vitro Architectural Glass or *Opaque* acid-etched glass by Walker Glass, visit vitroglazings.com or walkerglass.com.